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Ontario
Ministry of the Environment

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Minister

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FACTS about pesticides

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CONTROL OF BATS

INTRODUCTION

Bats, the only true flying mammals belong to the order Chiroptera. They are cosmopolitan in distribution and are among the most numerous of land vertebrates. Bat 'wings' are formed by thin membranes that extend from the greatly elongated forearm and fingers to the hind limbs and body. Their bodies are furred and their eyes are small. Examined closely, they are unlikely to be mistaken for any other animal. The eight species of bats found in Ontario orient themselves by means of a sonar-like echo-location system which enables them to detect solid objects even in total darkness, and accounts for their erratic flight when food (insects) is located.

Before the advent of man to North America, bats presumably used tree holes as major summer roosting sites to provide protection from weather and predators. With deforestation, bats lost some of their natural roosting sites and two species began to use buildings as an alternate refuge. Bat populations have dropped in Ontario in recent years because of the loss of natural roosting sites, disturbances during hibernation and obstruction of nursery and roosting colonies. In most cases, people requesting eviction of bats from their homes do so as a result of unfounded fears and plain ignorance of the true facts about these animals. Contrary to stories, bats do not deliberately fly into people's hair, and, in fact, their erratic flight is associated with their pursuit of insects, such as mosquitoes, upon which they feed. Eating up to half their own body weight per night in insects, bats obviously play an important ecological role. There is no reason to fear these small mammals and, although their smell and noise may become a nuisance, they pose no danger.

Eight species of bats commonly occur in Ontario (i.e., the Little Brown Myotis (Myotis lucifugus), Keen's Myotis (Myotis keenii), Small-footed bat (Myotis leibii), Eastern Pipistrelle (Pipistrellus suflavus), Big Brown bat (Eptesicus fuscus), Silver-haired bat (Lasionycteris noctivagans), Red bat (Lasiurus borealis) and the Hoary bat (Lasiurus cinereus). The latter three species spend only the summers in Ontario and avoid winter conditions by migrating south in autumn. The Little Brown Myotis and the Big Brown bat are the most common species found in buildings in Ontario. Only these two species will be discussed in this publication.

In the fall, the Little Brown Myotis seeks out caves and abandoned mines with cool and stable temperatures. They hibernate in those parts of the mines or caves where temperatures are between 1 to 5° C (34 - 41° F)and relative humidity ranging between 85 and 100%.

BIG BROWN BAT

The Big Brown bat is a common species which regularly roosts in buildings, particularly in urban areas. Colonies vary in size from 12 to more than 200. Males roost separately from nursery colonies of females and young. As the young mature the sexes re-unite. Most adults are copper-coloured, but colour may vary from light to dark brown. Each hair is bicoloured, the base half being almost black and the outer half, brown. Face, ears, and membranes are dark brown to nearly black. It has a wing span of 325 to 350 mm (13 to 14 in.) and weighs about 15 - 20 g (½ - ¾ oz.). This species is distributed throughout most of North and South America, and can endure sub-freezing temperatures but is not as tolerant of high temperatures as the Little Brown Myotis. During hot weather, they can crawl into rooms through crevices in chimneys, along pipe entrances, or into basements if the void between the inside and outside walls is continuous from attic to basement.

This species is one of the last to enter underground hibernating sites in fall and first to arouse in spring, and may be seen in flight at dusk in late November and early April, spending the winter in buildings, caves, mines, and similar shelters. The Big brown bat can be easily recognized by its large size. After feeding, the bat flies to a night roost to rest, favouring porches, brick houses, garages with open doors, or a breezeway. The tell-tale signs of its presence are a few droppings left each morning below the roost. Big brown bats can inflict a painful bite if carelessly handled.

Foraging is carried out above meadows, pastures, ponds, creeks, rivers and tree-lined streets of cities and towns. In summer, nursery colonies are situated in attics and behind shutters and sliding doors of barns. Such nursery colonies are located frequently near extensive fields with stream drainage. While they prefer to roost in buildings, they are also occasionally found in hollow trees, under the bark of trees, in rock crevices, and beneath bridges. The Big Brown bat roosts in cooler places than the Little Brown Myotis and will move to cooler areas when temperatures rise above 33 to 35° C (91 - 95° F). The solitary males roost in buildings, beneath bridges, in rock crevices and trees. It hibernates in caves and abandoned mines and is the only species that also regularly hibernates in buildings. This species tolerates a greater temperature range and lower relative humidity during the winter than other hibernating species.

HEALTH CONCERNS

Many people feel uneasy knowing that a house or place of work is inhabited by bats. Such people fear bats and just don't want them around, whether or not they are creating a problem. The droppings and urine of bats can cause a

persistent stench that is insufferable to many humans. Moisture from their droppings can stain the plaster in the ceiling and walls and, in some situations, the only remedy is to replace the stained portion. If large colonies have roosted in a building for extended periods, dropping accumulations sometimes necessitate removal of the siding. Deserted roosts should be thoroughly cleaned using a household disinfectant with an aromatic pine or lemon scent or other strong-smelling preparation. Wear a dust filtering respirator (covering nose and mouth) in order to avoid inhalation of fungi contaminated manure dust. A systemic fungus causing histoplasmosis can occur in humans if this contaminated dust is allowed into the lungs. Use a wetting agent (soapy water) to keep dust levels down when removing bat droppings.

Rabies is a matter of some concern when infected bats inhabit areas close to humans. In Ontario, statistics show that bats have one of the lowest incidences of rabies of any mammal and unless a bat is acting strangely in some way, there is little to worry about. Rabid bats seldom show the furious symptoms exhibited by many rabid carnivores (e.g. dogs and skunks), and there are few valid accounts of attacks on humans. Some typical rabid symptoms of bats include uncontrolled flight, bats landing frequently in areas and on surfaces where they would not normally be expected, an appearance in daylight hours (particularly around mid-day should be viewed with suspicion) and weakness or paralysis, depriving them of their ability to fly or cling to roosts, so that they flop over or lay helpless on the ground near the roost. For this reason, infected bats may be found near the base of a building. Most human exposure to bats occurs when an attempt is made to pick up such bats with the result being a bite. Anyone bitten or scratched by a bat, regardless of how healthy it appears or how small the wound, should seek medical attention. The wound should be washed with soapy water or detergent and medical attention then obtained as soon as possible. If the bat that caused the bite can be caught or killed (preferably without crushing the skull) it should be kept for examination by Public Health authorities. Of bat specimens that are brought in for testing and found to be positive for rabies, 95% are Big brown bats. Bats are not carriers or reservoirs of rabies as are other mammals, because they soon become paralyzed and die. Bats are much less of a threat to public health than other animals such as foxes or skunks, which account for most cases of rabies reported in Eastern Canada.

Never handle living or dead bats with your bare hands. The use of forceps or tongs is recommended for picking up bats. If this is not possible, use thick rubber or leather gloves. Wash the gloves and your hands in a disinfectant after contact and rinse with rubbing alcohol. All cats and dogs in Ontario should be vaccinated for rabies to ensure problems are minimized if they come in contact with a rabid bat or other infected wild animal.

Bats are known to harbour insect parasites that can feed on man. The bedbug and batbug, Cimex hemipterus and Cimex lectularius, are regularly found in bat roosts. When bat roosts are abandoned as a result of exclusion these insects can venture into other parts of the building and subsequently infest man. If a person finds himself bitten after a bat colony has been removed from an occupied building, he should contact his doctor to determine the nature of the problem. Batbugs do not spread disease from bats to humans or other animals. Use a household insecticide or contact a local pest control company to control insects found in a building where bats are observed or from which they have been removed. Note, it is illegal to use an insecticide in order to repel bats. Use a registered insecticide to control remaining bat ectoparasites after the bats have been excluded.

IDENTIFYING THE PROBLEM

Aside from the direct observation of bats and other sign indicating the presence of bats is the accumulated droppings below roosting sites. Bat droppings may be mistaken at first for mouse droppings, but the former are more irregular in shape contain insects parts and crumble readily. The odour and stain caused by urine and droppings may be clues, as are high-pitched squeaks and rustling sounds coming from a wall or attic. Some discolouration from body secretions is commonly found around the edges of small openings where bats exit from a building. Temporary roosting sites between night-time foraging periods such as porches, loading docks, etc., are likely to be less confined than are daytime or regular roosts.

The discovery of one or two bats in the house is probably the most frequent problem associated with bats. The Big Brown bat accounts for most of the sudden appearances. Common in towns and cities, it often enters homes through open windows or uncapped fireplaces. If unused chimneys are used as summer roosts the young may fall or crawl through the damper and into the house when they are learning to fly and their parents may follow. These bats may suddenly appear in mid-winter during a warm weather spell and fly about the house. Migratory bats occasionally enter buildings overnight during their spring and fall migrations. A bat will usually find the way out by detecting fresh air movement; therefore, a possible solution to rid the building of the bat is to open all windows and doors leading to the outside. If it is still present at nightfall, all the lights should be turned off to help the bat find open windows or doors. If the lights are turned on, the bat may seek refuge behind drapes and wall hangings. Bats usually will not attack a person even when chased. If the bat refuses to leave, it can be caught in an insect net, small box or can, or in a heavily gloved hand and released outside.

Openings attractive to bats may be found in all frame structures when boards become loose, shrink or warp. Bats commonly enter buildings through the overhang of the roof made by overlapping sheeting or drop siding. They are most often found in attics, between roofs and ceilings or roof spaces, in cornices, fascias and other crevices around the roof, in walls, in chimneys, around drain pipes, behind rafters and sheeting in open barns, between a window and screen, and occasionally in crawl spaces.

Outside, bats will fly around swimming pools from which they may drink and catch insects that are attracted to the water. Street and porch lights attract flying insects which in turn attract bats. Mercury vapour lights attract the most insects, while high pressure sodium vapour lights attract insects the least, give good quality lighting and are more energy efficient.

CONTROL

Bat-proofing is the most satisfactory and the only permanent way of obtaining freedom from bat roost nuisance. To bat-proof a house, points of access must first be found. The simplest method is to wait outside and watch for the points from which the bats leave the building.

Sources of air leakage may provide access to bats. Simple homemade devices will locate the general direction of air leak in the house. One consists of a piece of very thin bathroom tissue or thin plastic film (such as used in grocery stores to wrap meat and carry produce, or the type of film used by cleaners for garment bags) attached to a clothes hanger by two clothes pins or tape. The tissue and film are very sensitive to slight air movements, so when the tissue or film is placed in front of a wall outlet or window frame, a flutter in the materials indicates that air is causing the movement. Another method to test windows and doors for air tightness is to move a lighted candle around the frames and sashes; the air movement will cause the flames to dance indicating that caulking and/or weather stripping is needed. But take great care not to ignite curtains, drapes or other furnishings. Air leaks can be easily found by the use of an inexpensive air-flow indicator, air tester, smoke generator, or smoke stick. Bats can crawl through narrow slits and openings as small as 1 cm (½ in.).

Bats must be out of the building before bat-proofing begins. Sealing should be performed in early spring before the young are born, or be delayed until later in the summer when the colony is dispersing and the young are able to fly. Hardware cloth (0.5 cm (¼ in.) mesh) or sheet metal are used most often to close entrances, although softer materials, such as aluminum flashing, pressboard, or plywood are useful. Unlike rodents, bats will not gnaw their way through building materials. These materials can often be conveniently attached to the building with a heavy duty staple-gun. Fibreglass or urethane foam insulation can be used to fill wall voids occupied by bats. If foam or other loose type insulation is used, be certain that any substantial amount of droppings are removed and not just covered over, otherwise objectional odours may continue. Small openings and cracks can be sealed with quick setting hard putty, weather-stripping, caulking, urethane foam, or copper, steel or brass wool. When bat-proofing, pay particular attention to chimneys, louvres, vents, cornices, warped sidings and locations where the roof joins the walls in the area of the eaves. Species of bats which are crevice dwellers can often be eliminated by closing up usable crevices. However, this can be expensive and time-consuming. Bat-proofing is tricky while the colony still infests a building and should be completed in two stages:

1) seal all bat entries except one or two of the principle openings, wait for several days; and,

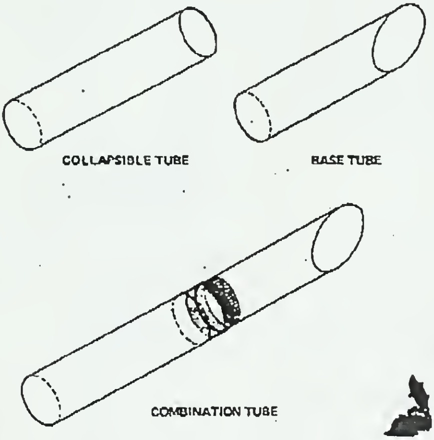
2) make the final closures about one hour after dark, when presumably all bats will be out of the building.

The bats which do not disperse to other areas may cluster or flounder about the plugged ingresses. Such bats should be provided with alternate roosting sites in the form of bat boxes (as discussed below). The building should be watched for several evenings at dusk to be sure that bats have not found an entry which may have been overlooked. To prevent bats from entering chimneys, spark arrestors or bird screens should be installed.

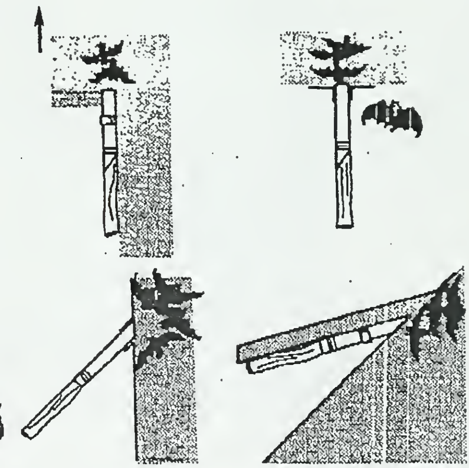
One of the most discouraging problems encountered in bat-proofing has been a necessity to seal the last opening only to find that not all the bats have left to feed. This difficulty can be overcome by means of a one-way valve-like device installed in the last exit (see Figure 1). After all entries except the primary one(s) have been sealed, a one-way valve-like device is installed in the remaining opening(s) permitting the bats to exit after dark but preventing re-entry. The bats depart through the small tube opening and tumble down the pliable sacking. Bats returning to the site will not be able to re-enter. Flour sacks, burlap bags, etc. can be modified to construct a one-way valve-like devise.

This device can be left in position for prolonged periods to permit lethargic and hibernating bats to leave after awakening. It should not be used in June and July when young, flightless bats might be in the roost. In due course the tube should be removed and the hole sealed.

FIGURE 1



Constantine's batproofing valve-like device. The lightweight, pliable, collapsible tube overlaps the heavier, rigid base tube, to which it is attached with tape.

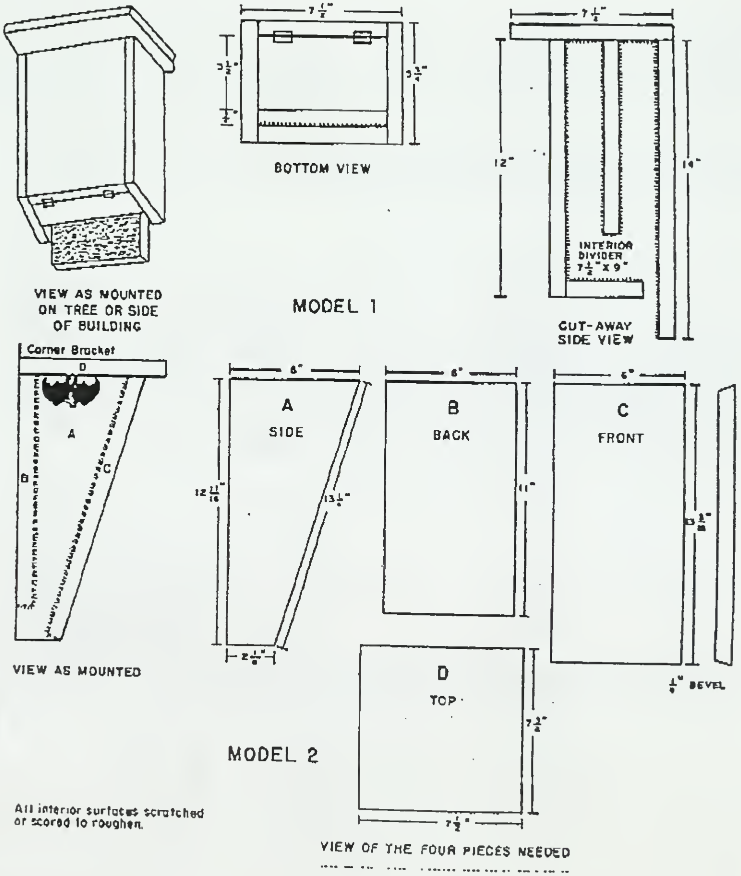


Constantine's valve-like batproofing device placed in various installations. Bats in the dark stippled area of the house interior are about to enter tube.

Another method of excluding bats involves the use of polypropylene bird netting that was developed to keep birds off high value crops. The netting (available at most garden centres) can be used as a simple barrier to exclude all passage or as a check valve which allows bats only to exit. When attaching the netting to the side of a structure, allow enough slack for the existing bats to escape. The netting should be attached above the exit holes such that it hangs in front of the holes thereby allowing the returning bats to directly contact the access hole but not reenter. Ultimately, they go elsewhere to roost. This type of netting has proved to be effective in excluding bats from structures, durable against climatic conditions and bats, practical and economic to apply, and aesthetically tolerable.

Bat boxes should be provided before exclusion methods are begun, to provide bats with alternate shelter during the gradual exclusion process. Otherwise the bat problem simply will be transferred to neighbouring houses. Such boxes will aid in the preservation of beneficial bat populations. Bat biologists have developed a variety of boxes and houses for bats (Figure 2). The size and shape is not important but the width of the entry space should not exceed 2.5 cm (1 in.). All inner surfaces must be roughened so that bats can easily climb. Because inside house temperature should not exceed 32° (90° F) the box should be insulated by covering the top and sides with tar paper, styrofoam, or even painted black to absorb the heat from the sun and provide a suitable temperature at night, especially for a maternity colony. Bat houses should be securely fastened to the side of the building or tree trunk, 3 to 5 metres (12 to 15 ft.) above the ground, and protected against birds and squirrels.

FIGURE 2



All interior surfaces scratched or scored to roughen.

When bats are living in an attic, and blocking their entrance is not feasible, it may be possible to make them feel unwelcome by changing the conditions of the attic. This involves the installation of lights that are left on 24 hours a day throughout the period of occupation. Incandescent 150-watt bulbs appear to be most effective when they are positioned so they do not cast dark shadows. Care must be taken that the arrangement and wiring of lights does not create a fire hazard. Bats do not abandon a lighted roost immediately, but tend to move to the darker areas of the roost. Frequent movement of the lights will enhance their effectiveness. Since the Little Brown Myotis prefers to colonize hot spaces, ventilation fans that can cool an attic might induce bats to look for warmer roosts.

Ultrasonic devices used to repel rats and mice are ineffective against bats. Sticky materials such as Tacky Toes^R or Shoo^R can be useful in repelling bats when they are deposited along the edges of bat entrance holes. These products are available in caulking tubes that can be purchased through a licenced pest control company.

No pesticides are registered for the control or repellency of problem bats. Licenced pest control companies can only use insecticides to remove any remaining bat parasites (i.e., ticks, fleas, mites and batbugs) in buildings after the bats have been excluded.

Consult your Yellow Pages for licenced pest control companies, wildlife removal services or contractors for assistance in the exclusion of problem bats.

For Further Reading:

1. Barbour, R.W. and W.H. Davis. 1969. Bats of America. Univ. of Kentucky Press, Lexington. 285 pp.
2. Corrigan, A.M. and G.W. Bennett. 1982. Bats, Part II, Exclusion provides permanent control. Pest Control (November). p. 43-44, 46.
3. Fenton, M.B. 1984. Just Bats. University of Toronto Press. 165 pp.
4. Greenhall, A.M. 1982. House bat management, USDI, Fish and Wildlife Service, Washington, D.C. Resource Publication 143, 33 pp.
5. Kunz, T.H. 1982. Ecology of Bats. Plenum Press, N.Y. 425 pp.

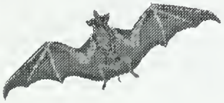
For individuals interested in bat conservation, contact:

1. Bat Conservation International
   P.O. Box 162603
   Austin, Texas 78716
2. Federation of Ontario Naturalists
   355 Lesmill Road
   Don Mills, Ontario M3B 2W8

This publication has been reviewed by the Ontario Pesticides Advisory Committee.

Health Canada Santé Canada

Effective Control of Bats



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Reformatted April 1999

Bats can become a nuisance when they invade dwelling structures. Their presence, ectoparasites, and odours from fecal matter and urine, and are all of concern.

Nevertheless, bats represent important members of the wildlife community and should be valued for the role they play as predators of insects. A single brown bat can easily capture 600 mosquitoes in an hour while a colony of 500 bats can eat a million insects nightly

Biology

Bats, the only mammals capable of sustained flight, belong to the order Chiroptera, which means "hand-wing" Out of the 900 bat species known in the world, about 40 species, mostly insectivorous, are found in Canada and the United States.

While some species can be larger, bats are usually not much bigger than a house mouse The wingspan of the two most common Canadian species, the little brown bat and the big brown bat, ranges from 8 to 14 inches. Bats will mate in fall or winter and the pups are usually weaned in July or August. A few bat species will migrate to the south when cold weather approaches while other species will just move to caves or mines where the temperature does not go below the freezing point

In some cases, the big brown bat will even roost in buildings throughout the winter if conditions are favourable, e g high humidity level and temperature above the freezing point Bats are loyal to their birthplaces, often returning to the same roost site year after year A bat can live more than 10 years.

Bats emit high-frequency sounds inaudible to humans These sounds bounce off objects in their paths to enable them to avoid obstacles and detect flying insects Sometimes bats can be seen around outdoor lights, which attract insects. Contrary to popular belief, bats are not blind. In fact, some species have excellent vision

To save energy, bats have the ability to enter a dormant state which make them appear to be sick, asleep or dead They may also bare their teeth and squeak loudly, leading many people to believe they are vicious. In reality, the helpless creature is only trying to ward off a possible attack

Bats must also avoid the watchful eyes of their many predators, which include hawks, falcons, owls, cats, snakes, and humans.

Bats in the Attic

Signs of infestation

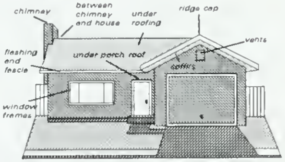
Bats are usually detected by their droppings or noise-making The musty smelling droppings can easily be mistaken for those of mice or birds However, bat droppings can be crushed into fine, shiny undigested insect parts By contrast, mouse droppings are firm and do not disintegrate readily No white colour appears in bat feces as in bird feces

Roost site identification

In order to determine whether bats are roosting in a structure, its exterior should be inspected before bats leave their roosts (before dark) or when they return from their night escapade (at dawn) Refer to picture 1 for possible entry sites A watch of an hour or so for a few days should be sufficient to identify all possible entry and exit ways

Because bats are nocturnal creatures, they will not leave their roosting sites if they are faced with bright light

Picture 1



Therefore, while inspecting the outside of a structure, one should maintain a dim light by fixing several layers of red cellophane over the head of a flashlight with a rubber band .

Taking count

Marking the entry sites down on a plan of the house and counting the number of bats exiting or entering the building will be a great help when monitoring the results of your control program.

Bat Control

When a bat infestation takes place in your house, you might consider excluding them either by "bat proofing" the structure yourself, installing bird netting, using lights to disturb them, providing alternative bat houses or hiring a company to exclude bats from a structure A combination of these methods would be most effective. One may be interested to know that newly installed bat colonies will be easier to dislodge.

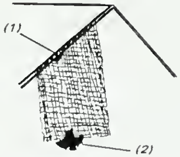
The best time to control bats is in the spring, before migratory bats return to the roost, or in the fall, when migratory bats have left for the season. This is important in order not to kill the young bats that may be trapped inside the structure Their carcasses would eventually create an odour and insect problem

Bird Netting

The installation of bird netting (polypropylene netting) stapled or duct-taped over entry points, the bottom part hanging loosely one to several inches from the building, will enable the bats to crawl under and exit the roost site On the other hand, returning bats will not be able to re-enter Refer to picture 2 for an example

The building should be watched for several evenings at dusk to ensure bats have not found another entry in the same structure After three to five days, when no more bats are seen exiting the building, the netting can be removed and the holes sealed as stated in the following section

Picture 2



Open-bottomed bird netting used to exclude bats from the attic Bat hole (1) Bats can come out (2), but won't be able to return to roost

Bat proofing

Bat proofing a structure is the best way to manage a bat infestation on a permanent basis. It is essential to seal all points of entry such as spaces under eaves, electrical conduits, and holes around the chimney and windows Picture 1 provides possible entry points Vents that must be kept open can be protected with a fine screen. Larger openings can be sealed with a high quality caulk, lath, sheet of metal, or window screen. Unlike rodents, bats will not gnaw their way through, but they will push away loose barriers.

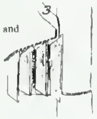
Use of lights

Since bats tend to avoid daylight, illuminating an infested attic may cause them to leave for another location This method is believed to be most effective if done shortly after bats return from their hibernating sites It may, however, not be as effective if it is impossible to direct the light to all roosting sites

Bat houses

Bats are important insect predators and therefore should be encouraged to roost in our neighbourhoods in structures other than those where people are living and working One way to achieve this is to install bat houses in trees, where bats will not represent a nuisance Bat houses can be purchased in hardware stores and garden centers or easily built with rough left over wood (see picture 3)

Picture 3



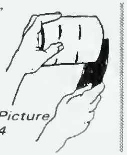
Cross-section of a bat house The inside consists of

Bat houses must be installed at various heights (from 1 8 m to 12 2 m), protected from the wind and oriented towards the sun in the morning Different crevices of different widths, placed at different heights, will attract different bat species. The entrance should be at the bottom since bats enter from below, but no obstacles such as tree branches should obstruct it. It may take up to one year before bats occupy these new structures especially designed for them.

Bats as Visitors

If a bat accidently wanders into a house through a window, door, or unused chimney, one should remain calm and not panic Don leather gloves because a bat may panic and bite when frightened Healthy bats have no reason to attack people unless threatened

Exclusion methods



≫ To remove a bat from a room, only the doors and windows that allow access to the outside should remain open Wait for the bat to follow the fresh air Bats usually rest during day time. Therefore, if you want the bat to leave a room of its own accord, wait until nightfall and make sure the room is dark enough for the bat to realize it is night Artificial lights may only confuse the bat's instinct.

≫ If the first method is unsuccessful, one may consider capturing the bat and then releasing it outdoors. The bat can be netted or captured in a small box or can (picture 4). Place the container over the bat, then carefully slide a piece of hard cardboard under it, ensuring you do not leave any space for the bat to fly away These are fragile creatures and therefore should be handled with care

≫ Another method consists of using a tube (such as one from a roll of paper towels) Seal one end and leave the other open. Slowly move the tube into a horizontal position next to the bat, and often the bat will crawl inside in an attempt to hide Then set it free

Once the bat has been removed, you can seal all possible entry points as stated above.

Transmitted Diseases

Rabies

Rabies is a potentially fatal viral disease in man and other mammals It is transmitted between animals by bites or through contact with saliva or bodily tissues. **Attacks by rabid bats are rare.** An individual bitten or scratched by a wild animal should seek medical attention immediately.

Cats and dogs stand the greatest chance of becoming infected by picking up a diseased animal The rabies problem is best managed by having pets and valuable domestic stock vaccinated against the disease

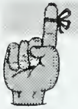
An individual spending considerable periods of time in attics, caves, or possible bat roost sites may consider getting immunized against rabies **Children should be educated not to handle any wild animal floundering on the ground or a pet with an unfamiliar behaviour.**

A bat found on the ground should be shovelled into a container and transported to public health authorities for autopsy.

Histoplasmosis

Histoplasmosis is a fungal disease in humans that may be contracted through the inhalation of dusty bat manure containing the causal organism Histoplasma capsulatum. A respirator and other protective clothing should be worn when working in bat roost sites Most infections are either asymptomatic or appear as a benign respiratory illness. Bats are not the only source of this pathogen which is dispersed by wind and can be found in soil and bird droppings (for example pigeon droppings)

No pesticidal product is registered in Canada for the control of bats.



Remember

Before Purchasing a Pesticide Product

≫ Identify the pest correctly.
≫ Use physical control methods and alternatives to pesticides.

≫ Read the label directions and safety precautions before buying the product. The label must include the name of the pest to be controlled and the treatment location (e.g., indoor, outdoor, garden uses, pet treatment).
≫ Purchase only the quantity of product needed for the treatment.
≫ Alternatively, you may choose to hire a licensed pest control operator.

When Using a Pesticide

≫ Carefully read all label instructions and precautions before using pesticides.
≫ Do not drink, eat or smoke while applying pesticides.
≫ Persons and pets should vacate the area during treatment. Cover or remove aquaria.
≫ If kitchen area is to be treated, cover or remove food, dishes and utensils.

After Handling a Pesticide

≫ Always wash your hands thoroughly after handling any pesticide product.
≫ Do not permit persons or pets to contact treated surfaces until residue has dried completely.
≫ Provide adequate ventilation of treated areas after use.
≫ Wipe clean all surfaces that comes in direct contact with food, such as counters, tables and stovetops, including indoor and outdoor surfaces.
≫ Always store pesticides out of reach of children and pets and away from food and beverages.

In Case of Accidental Poisoning

≫ Call a poison control centre immediately and seek medical attention.
≫ Take the pesticide container or label with you to the emergency facility or physician.
≫ Follow first aid statements on the label.
≫ In case of accidental poisoning of pets seek veterinary attention immediately.

When Disposing of Pesticides

Do not reuse empty pesticide containers. Wrap and dispose of in household garbage.

Unused or partially used pesticide products should be disposed of at provincially or municipally designated household hazardous waste disposal sites.

Use Common Sense

≫ These are general recommendations.
≫ Consult the label for specific instructions.
≫ When in doubt, contact a professional.

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Ottawa ON K1A 0K9

Pest Management Information Service
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